D. Boottii has been described as a variety of *D. spinulosa* and as a variety of *D. cristata*, and it has been considered by many a hybrid between these two. The scales of *D. Boottii* are more abundant and of a darker brown than in either of the other two, and it is glandular, a characteristic which is absent in the other two. These objections may be met by considering as one of the parents *D. spinulosa intermedia* instead of *D. spinulosa*. Another respect in which *D. Boottii* differs from the other two is the position of its sori nearer the midvein than in either of the others. In this it is not intermediate between its supposed parents. Experiments may prove *D. Boottii* to be a hybrid, if this fern can be produced by crossing its possible parents, but until that is done we are not justified in concluding that it is a hybrid. It is to be hoped that the question may appeal to some one in a position to perform such experiments. I trust also that others who have had the opportunity of observing *D. Boottii* in the field will publish such observations.

PORT RICHMOND, N. Y.
September 8, 1906.

SHORTER NOTES

NOTE ON THE IDENTITY OF TRILLIUM OBOVATUM PURSH. — I have observed in the July *Bulletin of the Torrey Botanical Club* that Dr. H. A. Gleason, in his treatment of the pedunculate species of *Trillium*, has made an error which I think should not go uncorrected. He has made *T. obovatum* Pursh a synonym of *T. erectum* L., and makes the statement that "it had white, obovate petals." There is nothing in Pursh's Latin description of his *T. obovatum*, page 245 of the Flora Americae Septentrionalis, to indicate the color of the petals; but on page 246, in his English notes, he distinctly states that the flowers are "dark rose-colored," suggesting that they might be white when first opening.

There is in the vicinity of Detroit a trillium that agrees exactly with Pursh's description of *T. obovatum* and undoubtedly is that species which, however, should be referred to *T. grandiflorum* Salisb. and not to *T. erectum* L. The flowers, on the

average, are only about one-half as large as those of *T. grandiflorum* and are rose-colored from the time they open. The smaller flower and coloration are permanent features of this form and therefore, it seems to me, it merits rank as a variety under *T. grandiflorum;* this rank was given it in Vol. 2 of the Proceedings of the Michigan Academy of Sciences.

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LESPEDEZA SIMULATA IN NEW JERSEY. — Several years ago Mr. B. F. Bush and myself in a paper on the Lespedezas of Missouri (Trans. Acad. Sci. of St. Louis **12**: 18) described as new *Lespedeza simulata.* The range of the species then known to us was Missouri and Indian Territory. Later, Dr. Britton in the appendix to the second edition of his Manual of the Flora of the Northern States and Canada (p. 1068) extended the range of the species to southern Pennsylvania, while Dr. Small in his Flora of the Southeastern United States (p. 642) further extended the range to Arkansas and Texas.

Last year while botanizing late in the fall near Harworth, Bergen County, New Jersey, I came across one plant of what seemed to be this species. It was, however, in poor condition, and accordingly I waited until this year to make certain of its identity. This year the species was quite abundant in the locality visited the previous year, and I secured a good series of specimens. This New Jersey plant seems undoubtedly referable to the above species, and is a pleasing addition to our local flora.

The plant occurs in an open rocky field with such plants as *Lespedeza capitata* Michx., *Solidago juncea* Ait. and *Solidago nemoralis* Ait. Being the only appressed-pubescent species with purplish flowers on peduncles shorter than the leaves and having sepals nearly as long as the pods, it is readily distinguished from all other species of this genus. Although so widely distributed it is either rare or often overlooked, as it seems to be comparatively little collected. I have never seen it in any other place in New Jersey, and unfortunately it is liable to be soon killed in the

locality mentioned above, as a real-estate company is at present engaged in laying out an addition in the field in question.

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FURTHER NOTE ON THE FORMATION OF AERIAL TUBERS IN SOLANUM. — In connection with the article on "Tuber-formation in *Solanum tuberosum* in Daylight," in the preceding number of TORREYA, two recent illustrated papers,* not referred to in that article, are of considerable interest.

Referring to the fact that the production of aërial tubers by *S. tuberosum* has been repeatedly noted in scientific journals and horticultural publications (no references are given), Vilmorin states that he himself has observed it in the varieties "Cardinal," "Giant Blue," and the "Wonder of America." The anomaly is more apt to occur on varieties having colored tubers than on those having white ones, and the aërial tubers form preferably when the vegetation is exuberant on account of the moist condition of the soil. They arise, he says, "on the lower part of the stem in the axils of the leaves, and resemble secondary branches hypertrophied and swollen with reserve food. Furthermore, if a branch of a given variety of potato is buried, tubers will form at that region before the plant has produced them on the subterranean branches properly so-called."

It is also stated (again without exact reference) that another observer saw a plant that had all the specific characters of *Solanum tuberosum* L. give rise to an authentic tuber of *S. Commersoni* Dunal. "If," says Vilmorin, "that was its exact origin, which I do not yet believe, we have without doubt to consider a problem very interesting for botany and very disquieting for nomenclature: the spontaneous passage of one species into another without the crossing of a single sexual generation."

Such an extraordinary case of discontinuous variation should be authenticated by the strongest evidence.

* Vilmorin, Ph. L. de. Sur les tubercules aériens de la Pomme de terre. Bull. Soc. Bot. France **52**: 535. 1905.

Labergerie, M. Tubérisation des Tiges aériennes des variations du Solanum Commersoni. *Ibid.*, **53**: 179. 1906.

Continuing, the writer describes and figures a most interesting sport in the "Giant Blue" variety of *S. tuberosum*.

"The aërial tubers are formed in the month of September, but not on the principal stem growing from the seed tuber, nor on its branches, but on two branches arising in the midst of an inflorescence. The flowers, as is the case in all cultivated varieties, had fallen without being fertilized, but the peduncles to which they were attached were still green and perfectly distinct. The inflorescences of *Solanum tuberosum* being terminal, it must be admitted that the axes of two of the sterile flowers were prolonged into leafy branches. These branches are remarkable for their size, much greater than that of the main stem below the inflorescence; they bear well-developed leaves in the axils of which are shown the tubers. These, one simple, the other branched, are terminated by a tuft of small leaves, and they would have developed branches if I had not cut them off for preservation in alcohol. Leaves are uniformly present over the surface of the tubers below the buds commonly called 'eyes,' and which in two of the tubers represented in the accompanying figure have developed into secondary tubers." The chlorophyll which has formed in the light has masked the blue color of the tubers.

Labergerie describes the formation of aërial tubers on *Solanum Commersoni*. In this case, he says, the moisture of the soil is an important factor in the development of the tubers, but not the cause of their production. They form in the leaf axils, and also at the extremities of rather long branches. The exact conditions under which they develop has not been ascertained, but they seem to be produced under different conditions from those in the case of *S. tuberosum*.

C. STUART GAGER.

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